

Appn. No. 10/062,700
Amdt Dated: May 2, 2005
Reply to Office Action of March 1, 2005

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Remarks

The present invention concerns methods and apparatus used to determine the connectivity of the nodes in a communications network assuming that the connectivity is unknown. The claimed methods discover the connectivity of a network without knowledge of the topology of the nodes (ATM switches, Frame Relay switches, Routers, etc.)

Contrariwise, U.S. Patent Application No. 2002/0001307 (Nguyen) provides a method for improving the integrity of virtual connections. Nguyen, in all cases, assumes that the connectivity of the network is known to at least one network entity, either a management entity or a network switching entity. Other network entities receive the connectivity information they need from the entities that have the information. Nguyen does not provide a method for determining network connectivity when the connectivity is not known to any management element or to any network entity.

The methods of the present patent application are different from those of Nguyen. While data collection procedures are described in both the present patent application and in Nguyen, the use to which the collected data is applied is different. Data collection per se is known in the art of network management. Applicants' claimed methods use their collected data to determine the connectivity of nodes in a communications network where the topology of the nodes is unknown. Nguyen uses their collected data to improve the

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integrity of virtual connections, where the connectivity of the network is known to at least one virtual entity.

Referring to the Office Action, Claims 1-26 stand rejected under 35 USC 102(e) as being anticipated by U.S. Patent Application No. 2002/000137 to Nguyen et al.

Claims 1 and 25 claim a method of determining a configuration of at least a portion of the network when the existence of the link is unknown. Claims 13 and 26 claim an apparatus for determining a configuration of at least a portion of the network when the existence of the link is unknown.

In the paragraphs cited by the Examiner (0639, 0620, 0621, and 0616) Nguyen fails to teach or even suggest how to identify a link when the existence of the link is unknown. The paragraphs refer to the transfer of connection information from one network element to another, which is data collection. Therefore, it is respectfully submitted that Claims 1, 13, 25 and 26 should be deemed allowable over Nguyen.

Claims 2 and 14 claim, inter alia, receiving management information base parameters from the nodes. This is data collection which is organized for use in determining connectivity of the nodes in a communications network where it is assumed that the connectivity is unknown. Nguyen collects data to improve the integrity of virtual connections where the connectivity of the network is known to at least one network entity.

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Claims 3 and 15 claim receiving virtual path identifier information (VPI) for each virtual connection. In paragraph 218, Nguyen describes how a network administrator can use the software in Nguyen to establish a new virtual connection in a network using previously collected VPI and VCI data. This is different from receiving the VPI as a part of a method to determine a configuration of at least a portion of a network when the network connectivity is unknown.

Claims 4 and 16 claim receiving virtual channel identifier (VCI) information for each virtual connection. In paragraph 218, Nguyen describes how a network administrator can use the software in Nguyen to establish a new virtual connection in a network using previously collected VPI and VCI data. This is different from receiving the VCI as a part of a method to determine a configuration of at least a portion of a network when the network connectivity is unknown.

Claims 5 and 17 claim determining one or more identifiers for each of the one or more virtual connections. Paragraph 0218 is discussed above. Paragraph 0219 describes how a network administrator can use the software in Nyugen to establish a new virtual path connection in a network using previously collected VPI data. Nyugen fails to teach or suggest determining a portion of a network configuration when the connectivity is unknown by determining one or more identifiers for each of the one or more virtual connections.

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Claims 6 and 18 claim determining at least one link between the subset of the

nodes comprising determining the subset of nodes having the same one or more

identifiers. Paragraph 0220 of Nyugen describes how a network administrator can use

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